



**BioWorks®**  
How You Grow Matters™



# Vegetables, Transplants & Herbs: Disease & Insect Management

BioWorks' products are used by many growers as their successful, cost-effective strategy for controlling diseases and insect pests. When planning your next vegetable or herb crop, give your plants a healthy start and keep them clean throughout production with the BioWorks' family of products.

## Products for a Great Start and Maximum Production (See chart on reverse for timing and rates)

### RootShield® for Root Disease Control

- Provides long-term root protection for all stages of vegetable growing
- Grows on the roots "shielding" them against root damaging fungi such as *Fusarium*, *Pythium*, *Rhizoctonia*, *Cylindrocladium* and *Thielaviopsis*
- Active Ingredient: patented beneficial fungus *Trichoderma harzianum*, strain T-22 that "eats" pathogens
- Cost effective: reduces or eliminates chemical root fungicide applications
- Grows on the roots within a pH range of 4 – 8 at soil temperatures of 48 to 97° F
- 0-hour REI / RootShield Granules OMRI Listed

### CEASE® and MilStop® for Foliar Disease Control

**CEASE®** for covered production (4-hr REI, OMRI Listed) **MilStop®** (1-hr REI, OMRI Listed)

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Prevents both fungal &amp; bacterial diseases</li> <li>• Controls <i>Botrytis</i>, powdery mildew, <i>Pseudomonas</i>, <i>Xanthomonas</i>, <i>Erwinia</i></li> <li>• Leaves no unsightly residues</li> <li>• Active ingredients: <i>Bacillus subtilis</i> (strain QST 713)</li> <li>• Safe for beneficial insects and bees</li> <li>• 0-day pre-harvest interval</li> </ul> | <ul style="list-style-type: none"> <li>• Kills powdery mildew on contact</li> <li>• Leaves no residues; dries quick, clean</li> <li>• Active ingredient: Potassium Bicarbonate</li> <li>• Cost effective, pre-formulated with a spreader &amp; sticker</li> <li>• Can be used in rotation with most chemical pesticides or as a stand alone fungicide</li> <li>• Compatible with many beneficial insects</li> </ul> |
|--|---|

### NemaShield™ for Fungus Gnat Larval Control

- Especially useful in greenhouse propagation and transplant production
- Easy to use dispersible formulation; apply with a sprayer or through an injector
- Active ingredient: *Steinernema feltiae* insect parasitic nematode
- No REI; No human toxicity; exempt from EPA labeling requirements
- Compatible with many pesticides, including insecticides

### BotaniGard® and SuffOil-X® for Insect and Mite Control

**BotaniGard®** (4-hr REI, Organic formulation available\*)

- Controls whiteflies, thrips, aphids, etc.
- Mycoinsecticide with unique mode of action from *Beauveria bassiana* strain GHA
- Spores work by direct contact with insect
- Compatible with IPM programs and beneficial insects
- Ideal resistance management tool

**SuffOil-X®** (4-hr REI, OMRI Listed)

- Suffocates and kills eggs, larvae, nymphs and soft bodied insects, mites
- Unique pre-emulsified formulation stays in suspension better than other oils
- Smaller oil particles provide uniform coverage with less chance of phytotoxicity

To find out more about the BioWorks family of products, please contact us at 800-877-9443 or visit [www.bioworksinc.com](http://www.bioworksinc.com). © 2008 BioWorks, Inc.

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## Disease & Insect Management Program

Product and Application		Rates					
<b>Root Disease Prevention</b>  <b>Use in Propagation and in the Greenhouse or in the Field</b>	<b>RootShield® WP, RootShield® Granules</b> Controls: <i>Rhizoctonia, Pythium, Fusarium, Thielaviopsis</i> and more	5-12 lb / acre (RSG) 16-32oz /acre (RSWP)					
	Field production / in furrow						
	Sow seed or plant clean, disease-free plants into media containing RootShield Granules, OR	1.25 lb / cu.yd.					
	Drench or apply through drip irrigation immediately after seeding/planting with RootShield WP	4 oz / 100 gal.					
	Re-apply RootShield WP again in 10-12 weeks at 1/2 the rate.	2 oz / 100 gal.					
	*RootShield WP application can be made at any time to prevent disease.						
Product and Application		Rates					
<b>Foliar Disease Prevention</b>  <b>Use in Propagation and in the Greenhouse or in the Field</b>	<b>CEASE® for greenhouse, coldframe, and high tunnel production</b> Controls: <i>Botrytis, powdery mildew, Pseudomonas, Xanthomonas, Erwinia</i> and more	4 qts. / 100 gal. every 5-7 days					
	Spray as a preventative for <i>Botrytis</i> , powdery mildew and bacterial diseases.						
	<b>MilStop®</b> Controls: Powdery mildew, <i>Botrytis</i> and other diseases of vegetable crops						
	When conditions are right for powdery mildew or <i>Botrytis</i> , apply MilStop as a preventative.	1.25 lb to 2.5 lb / 100 gal. every 7-10 days					
	If plants become infected with powdery mildew, use MilStop at the curative rate. When control is achieved, switch to the preventative rates shown above.	2 to 3 lbs / 100 gal. every 7-10 days					
Product and Application		Rates					
<b>Insect Control</b>  <b>Use in Propagation and in the Greenhouse or in the Field</b>	<b>NemaShield™</b> Controls: Fungus gnat larvae and Thrips (WFT) pupae and pre-pupae	One 100 million packet / 3,400 sq.ft.					
	Apply NemaShield for insect control within the first week after seeding or transplant, or immediately after seeing adults flying.						
	<b>Re-application rates and intervals</b>						
	For light or heavy infestations. Re-apply in 14 to 21 day intervals at the light infestation rate. For heavy infestations on highly susceptible crops or newly propagated cuttings, follow the rate recommended above and re-apply at the light infestation rate when necessary after 5 to 6 weeks.	One 100 million packet / 1,100 - 2,200 sq.ft.					
	<b>BotaniGard® ES and 22WP (Mycotrol® O – organic formulation)</b> Controls: whitefly, aphid, thrips, etc.						
	At first sign of insects (egg hatch or small larval instars) apply BotaniGard ES or 22WP at 3 to 10 day intervals. If pest pressure is high, combine initial applications with a contact insecticide or IGR and follow with another BotaniGard spray in 3 to 5 days, making at least 2 applications before returning to the longer spray interval.	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Whiteflies, Aphids, Mealybugs:</td> <td style="text-align: right;">½ to 1 qt(lb) / 100 gal.</td> </tr> <tr> <td>Thrips:</td> <td style="text-align: right;">1 to 2 qt(lb) / 100 gal.</td> </tr> <tr> <td>Other labeled insects:</td> <td style="text-align: right;">½ to 2 qt(lb) / 100 gal.</td> </tr> </table>	Whiteflies, Aphids, Mealybugs:	½ to 1 qt(lb) / 100 gal.	Thrips:	1 to 2 qt(lb) / 100 gal.	Other labeled insects:
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Other labeled insects:	½ to 2 qt(lb) / 100 gal.						
<b>SuffOil-X® (Note: Herbs not specified on label)</b> Controls: mites, whitefly, aphids, etc.							
At first sign, apply SuffOil-X to suffocate all life stages of many pests of vegetables and herbs. Also, effective on powdery mildew	1 to 2 gal. / 100 gal.						

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